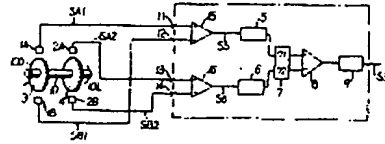


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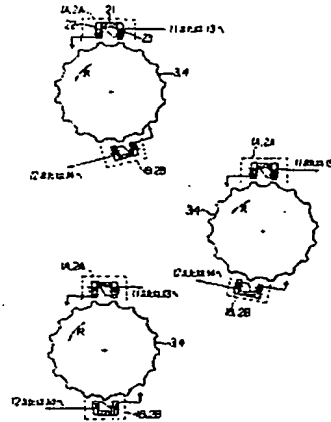


APPLICANT : YASKAWA ELECTRIC MFG CO LTD;

INVENTOR : MURAKAMI SATOSHI;

INT.CL. : G01L 3/10

TITLE : TORQUE DETECTOR



ABSTRACT : PURPOSE: To form a torque detector which enables highly accurate detection of torque, by arranging two pickups each on rotors so as to be positioned mechanically at 180° therebetween while being shifted in the output phase by 180° to eliminate error contained in the output signal.

CONSTITUTION: Two each of pickups 1A, 1B, 2A and 2B are provided on respective rotors 3 and 4 and differential amplifiers 15 and 16 into which output signals of the pickups are arranged in front of waveform rectifiers 5 and 6. In the case of even gears with the number of teeth of gears represented by N, the pitch between the pickups 1A and 1B and that between the pickups 2A and 2B shall be $(N/2) + (1/2)$ or $(N/2) - (1/2)$. In this case, as the top priority is put on cancelling magnetic attracting force of electromagnetic type pickups, slight effect remains due to relative values of the two rotors 3 and 4 but this poses no problem in practice. In the case of odd gears, both the pitches shall be $N/2$. In the case of odd gears, both the pitches shall be $N/2$. In this case, the mechanical and electrical angles are set at 180° in the phase difference.

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